



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

from that found in *Botrychium*; while in *Helminthostachys* the fertile spike is interpreted as representing a single pinna. This would dispose of the sporangiophore nature of the spike, and revert to ROEPER's view (in 1826) that it represents two fused basal pinnae.

The general conclusion is that the Ophioglossaceae are related to the ferns, and "have sprung from near the level of the Osmundaceae."—J. M. C.

The strobilus of *Selaginella*.—Miss GERTRUDE MITCHELL³² has recorded some general studies of the strobilus of *Selaginella*, which fill up certain gaps in our knowledge, and "confirm or controvert statements" of other investigators.

In some species the axis was observed to renew its ordinary vegetative character beyond the strobilus: in one case abortive sporangia were produced in the axils of the foliage leaves just beyond the tip of the strobilus; in another species a second strobilus was produced upon such an axis, the two strobili being separated by a sterile region; and in still another case a branched strobilus was noted. The distribution of sporangia is variable, and species are enumerated under the following heads; one large basal megasporangium, several basal megasporangia succeeded by microsporangia, strobili wholly megasporangiate or microsporangiate, and an indiscriminate arrangement. The species are also enumerated that mature one, two, or three megasporangia, instead of the more usual four, and also two rare cases in which there are twelve (*S. Vogelii*) and eight (*S. involvens*) megasporangia. Considerable attention is given to the sporangium wall and its mechanism for dehiscence, involving what are spoken of as "its wonderful adaptations for cross-fertilization." The paper closes with a brief consideration of the vascular anatomy of the strobilus and the ligule.—J. M. C.

The stele of *Osmunda*.—The vascular anatomy of this genus has given rise to much discussion and to divergent opinions as to its phylogenetic significance. FAULL³³ has now investigated abundant material of the sporelings of *O. cinnamomea* in all stages, and has reached the following results and conclusions: The cortical cells at the base of the sporeling are inhabited by a fungus. While there is considerable variation in the development of different individuals, in no case is the transition from protostele to siphonostele effected by a simple expansion, as has been claimed for Osmundaceae. There are bays or gaps in the xylem near the nodes, which may result in inclosing a "stelar" pith. Rarely and only in adult stems does the internal endodermis and "extrastelar" pith connect with the external endodermis and cortex through leaf gaps. Internal phloem has been found in unbranched adult plants, and this fact, together with the absence of branching in the sporeling, is thought to indicate that internal phloem and

³² MITCHELL, GERTRUDE, Contributions towards a knowledge of the anatomy of the genus *Selaginella* Spr. Part V. The strobilus. *Annals of Botany* 24:19-34. *pls. 3, 4.* 1910.

³³ FAULL, J. H., The stele of *Osmunda cinnamomea*. *Trans. Canadian Inst.* 8:515-534. *pls. 4-6.* 1909.